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Saskatchewan Exploration and Development Highlights 1992

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Projected 1992 exploration expenditures in northern Saskatchewan are $24 million compared to actual expenditures also of $24 million in 1991. Underground development costs at the Cigar Lake, Eagle Point, and McArthur River uranium deposits are forecast to be five to six times those for grassroots exploration, which have remained stable. Base metal expenditures are expected to decline, whereas those for diamonds and gold will remain similar or rise.

Table 1- Exploration expenditures.

	1991 (actual)	1992 (estimated)
Uranium	10 (47)	10 (67)
Gold	5	7
Base metals (including PGE)	5	4
Diamonds	3	1 to 5
Total	24	22 to 26

Notes:
Figures are rounded to the nearest million dollars.
1991 actual; 1992 estimated: The grand total of uranium test mine, underground, and grassroots exploration expenses is given in brackets.

URANIUM

Saskatchewan remains the focus of uranium production and exploration in Canada. Although no new world class discoveries may be reported again this year, five major new projects are under review. An excellent reserve base and soft uranium prices (the spot market price has varied from US$7.75 to $10.50/lb in 1992) continues to curtail exploration. The recent price increase reflects a US$2.50/lb premium resulting from the negotiated settlement regarding CIS imports to EURATOM countries.

Cameco is the key player in uranium mining and exploration and commands 54 percent of currently identified reserves. Cameco's ownership is now public shareholders (41.8%), Government of Saskatchewan (38.9%), and Government of Canada (19.3%). Saskatchewan mines produced 6.9 million kg U in 1991 making the province the western world's leading producer with roughly 85 percent of Canadian output and 28 percent of western world output. Sales amounted to 6.6 million kg U valued at $304 million in 1991. Because the Rabbit and Cluff Lake mills operated at 50 percent capacity throughout 1992, uranium production will rise this year.

Reserves and production figures for the three main mines are presented in Table 2. Currently identified reserves within the Athabasca Basin are sufficient to sustain production well into the next century. On the exploration side, some ten companies still remain involved in uranium exploration joint ventures in the Athabasca Basin.

Rabbit Lake

Uranerz Exploration and Mining Ltd. (33.3%); Cameco, operator (66.7%)

The Rabbit Lake mill will rely on the Collins Bay B zone pit stockpile for mill feed until the ore from the Eagle Point test mine is available. By the end of July 1992 test mine development had reached the 180 m level. It included an ~1400 m long 4.3 m by 5.5 m ramp connecting the surface portal to two horizontal drifts (at 120 m and 180 m) and fresh air and exhaust raises. The non-entry, test mining of the first stope began in July with initial results expected late this fall. The mineable Eagle Point reserve is 3.38 m t grading 0.8% U (27 000 t U). Another 2.26 m t at 0.89% U (20 100 t U) are classed as geological reserves.

The Eagle Point deposit, lying to the northeast and along strike of the Collins Bay B, D, and A zones, consists of structurally controlled, tabular lenses and veins hosted within Aphebian supracrustal rocks. The deposit, contained within the hanging wall of the Collins Bay fault, is elongated in plan with the long axis trending northeast over an area 1100 m long and 305 m wide. The mineralization, genetically a variant of the unconformity type, strikes 035° and dips southeast to a depth of at least 425 m.

Cluff Lake

AMOK Ltd., operator (80%); Cameco (20%)

At Cluff Lake, Cluff Mining produced 731 t U in 1991. Mill feed was supplied from the Dominique–Janine North open pit, mined out in December 1991, and the Dominique–Peter underground mine. Production in 1992 will come from the remainder of the Dominique–Janine North ore which was stockpiled, and from the Dominique–Peter mine, which will shut down for the winter months. The estimated 1992 output will be similar to that of 1991 (Table 2). Because of soft market conditions the company operates the mill on alternate weeks only. The two stage Dominique–Janine open pit extension proposal, located south of the Dominique–Janine North pit, is under environmental review. The new pit reserves are estimated to be 850 000 t ore grading

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Table 2 - Published reserves from Saskatchewan uranium mines.

Owner(s)*	Property/Deposit	Reserves(t U)	Grade % U	Production (t U) 1991***	1992****
	MINEABLE**				
Cameco-Uranerz Expl. Min.	Collins Bay B	5 600	0.53	745	2154
	Collins A	6 500	4.82	-	-
	Collins D	2 200	1.86	-	-
	Deilmann	36 800	1.44	5 421	5 385
	Eagle Point	27 000	0.8	-	-
Cluff Mining (Amok Ltd.-Cameco)	Cluff Lake	16 000	0.75	717	731
Total Minatco	McClean, JEB, and Sue Trend	17 300	2.7	-	-
Denison-Uranerz Expl. Min.-Bow Valley-OURD-Numac.	'Midwest' Lake	14 000	3.8	-	-
	GEOLOGICAL**				
Cameco-Uranerz Expl. Min.	Eagle Point	20 000	0.89	-	-
Cameco-Cogema-PNC CEGB-Kepco	Dawn Lake	11 500	1.67	-	-
Cameco-Uranerz Expl. Min.-Interuranium Can.-Cogema Can.	McArthur River P2N	100 000	4.24	-	-
Cigar Lake Mining (Cameco-Cogema-Idemitsu-Corona Grande-Kepco)	Cigar Lake	148 000	7.84	-	-

Notes:
* Operator first
** Mineable and Geological are Cameco definitions. All figures in the table may not be exactly comparable.
*** 1991 Production figures from Cameco annual report
**** 1992 production estimated

0.59% U (5000 t U) and these reserves will take seven years to mine once approval is received. The ultimate pit contour will extend beyond the current Cluff Lake shoreline and will require a damming structure to be built in the lake as outlined in the Environmental Impact Statement (E.I.S.). Meanwhile, AMOK Ltd. has continued to define and develop new reserves in the Dominique—Peter underground mine through extensive diamond drilling programs on surface and underground. In 1991 and 1992, a new haulage/development drift was and continues to be driven northward and westward from the current producing stopes on two mining levels.

Key Lake

Cameco, operator (66.67%); Uranerz Exploration and Mining Ltd. (33.33%)

Key Lake, where the Deilmann open pit is being mined, is the largest, high grade producing uranium operation in the world. Key Lake set a record during 1991, producing 5424 t U in just 10.5 months, while on December 11, 1991 the site reached the production milestone figure of 38.465 t U (100 m lbs U_3O_8). The Deilmann mining schedule has been accelerated to mine out and stockpile the ore by 1995, when, subject to government approval, the pit will be used for tailings disposal. Mineable reserves at the close of 1991 were 2.56 m t ore grading 1.44% U (36 800 t U).

Cigar Lake

Cigar Lake Mining Corporation: Cameco (48.75%); Cogema Canada Ltd. (32.625%); Idemitsu Uranium Exploration Canada (12.875%); Korea Electric Power Cor-

poration (2.0%); Corona Grande Exploration, wholly owned subsidiary of Cogema (3.75%)

The Cigar Lake Mining Corporation is developing the giant Cigar Lake deposit, with reserves estimated at 148 000 t U. The shaft was completed in May 1990, to a depth of 500 m. Two levels were driven, one at 420 m above the orebody in the Athabasca Group sandstones; the other at 480 m below the orebody and in the basement. In 1991, a Robbins 53RE boxhole boring machine extracted 53 t of ore grading 14.7% U in two "boxhole boring" tests of ground that was first frozen. In 1992, additional test mining on a pre-commercial scale will include a novel jet boring method, successfully tested at a pilot scale earlier in the year. Further work in boxhole mining includes the trial of an expandable reamer. These tests will also be undertaken in frozen ground. The final commercial mining method has not been chosen yet. Environmental impact and feasibility studies are expected to be completed in 1993.

Midwest Property

Midwest Joint Venture: Denison Mines Ltd. (45%); Uranerz Exploration and Mining Ltd. (20%); Bow Valley Industries Ltd. (20%); OURD (Canada) Ltd. (15%). Numac Oil and Gas Ltd. has a reversionary interest in UEM and BVI shares of the joint venture.

Denison Mines Ltd., a 45 percent owner and operator of the Midwest project, and Total Minatco Ltd., the owner and operator of the McClean Lake project have executed an agreement which provides for each of the parties to acquire an interest in the other's projects. This agreement allows for the development of the McClean Lake and Midwest properties in a complementary manner. The currently envisaged program for the proposed complementary operation is given with the description of the McClean Lake property.

McClean Lake Property

Total Minatco Ltd.: Total Compagnie Minière Ltd. (100%)

A proposed complementary operation of this property with the Midwest property would begin site preparation at McClean Lake in the fall of 1993 and go into production mid-1995. Following a commissioning period, the mill would operate at 2300 t U/year until 2008. Precise dates would depend on timely receipt of government approvals. Mining of the JEB open pit, and construction of the mill and other facilities would start two years before mill operations begin. When mining of the JEB site is complete, the pit would be prepared for tailings disposal prior to mill start up. Mining would continue with the SUE C open pit, followed by the SUE A and B open pits and eventually the McClean Lake underground deposit. Development of the Midwest orebody is currently planned to begin in 1998 and ore from this mine will be custom milled at the JEB mill beginning in 2000. A portion of the ore may be milled at the Rabbit Lake mill owned by Uranerz Exploration and Mining Ltd. and Cameco Corp. Total Minatco Ltd. has published mineable reserves of 17 300 t U averaging 2.7 percent U on the Wolly project. With 14 000 t U on the Midwest property, the combined reserves are in the order of 31 000 t U. Exploration is continuing along the Sue trend with the objective of identifying additional high grade open pit reserves.

With this successful work, Total Minatco Ltd. has defined a new uranium 'SUE' type exploration target for the Athabasca Basin in areas where conductors have been drill tested on widely spaced sections for single major uranium deposits like P2 North, and Cigar and Key lakes. Numerous subeconomic uranium drill intersections, especially in the southeast part of the Athabasca Basin, indicate that SUE trend type deposits, sometimes located 100 m off the EM conductor, could be found and exploited.

McArthur River—P2 North

Cameco and its subsidiary Cameco Resources Ltd., operator (53.991%) (56.435%); Uranerz Exploration and Mining Ltd. (29.775%) (27.331%)*; Interuranium Canada Ltd. (9.063%); Cogema Canada Ltd. (7.171%)*
( ) These figures are ownership changes at production.*

Exploration in the east and southeast part of the Athabasca Basin is aimed at the discovery of another major deposit of the Key Lake—Cigar Lake unconformity type. Mineralized holes are common in this area where the unconformity is at a depth of >500 m. While no major discoveries were made this year, Cameco did increase the P2 North reserve estimate by 30 percent to 100 000 t U at an average grade of 4.24% U. Cameco has acquired 100 percent ownership of AGIP Resources Ltd. for $49.8 million and because this company's principal asset was a 10 percent interest in the McArthur River joint venture project, Cameco's share will now be 56 percent when the project reaches the production stage. The especially favourable features of this deposit are size, grade, good silicified ground, its location only 70 km northeast of Key Lake, and ore composition which is amenable to milling at the Key Lake mill. All further definition of ore reserves will be part of the underground exploration program scheduled for 1993-4. This work, serviced by a winter road only, will sink a shaft to 630 m, drift in on the 500 m level and complete up to 25 000 m of infill, percussion, and diamond drilling on a selected part of the orebody. Possibly a second drift will be developed on the 600 m level. The P2 North mine, costing in the order of $100 million, is planned to be in production by 1997, at 500 tpd. Other plans call for the access road to be built in 1995 with mine development in 1995-6. Mine life will be approximately 20 years. Government approvals are required for these schedules to be kept.

GOLD

Gold exploration and development activity is expected to rise modestly in 1992 although total expenditures will still be well below $10 million. Only about a dozen companies are now active compared to over 60 in 1988. Most work continues to be concentrated in the La Ronge and Glennie Lake domains. Claude Resources Inc., in spite of difficulties, operated the Seabee mine throughout 1992. Cameco, in joint venture with Uranerz Exploration and Mining Ltd. and Westward Ex-

plorations Ltd, completed a $1.5 million drill program at Contact Lake. New ore reserve figures and a decision on the initial underground program, as recommended in the 1991 feasibility report are expected.

La Ronge Domain

Contact Lake

Cameco, operator (50%); Uranerz Exploration and Mining Ltd. (30%); Westward Exploration Ltd. (20%). Windarra Minerals Ltd. is the principal shareholder of Westward Explorations Ltd.

The joint venture's 51 hole, 12 800 m drill program was completed by mid-April. The majority of the drilling was from the ice of Contact Lake to confirm and expand previously indicated reserves in the BK 3 zone and to test the area of high grade gold intercepts in the overlying Upper Structure. Additional holes explored the relatively untested area between the BK 1 and BK 3 zones. Depth extensions to the BK 1 and BK 2 zones were also checked. Reserves for 1991 at Contact Lake and Pap SW are listed in Table 3.

Thirty four holes in the BK 3 zone have confirmed the continuity and grades indicated by earlier, widely spaced holes. Also, the zone of ore grade mineralization containing possible reserves has greatly expanded. BK 3 was previously estimated to have possible reserves of 227 000 t grading 12 g/t (0.35 oz/ton) Au. The mineralization is open laterally and to depth.

Six holes, drilled in the relatively unexplored region between BK 1 and BK 3, returned significant intersections. DDH 308, containing the widest intersection to date, cut 25 m averaging 5.5 g/t (0.161 oz/ton) Au. Holes in this area are still widely spaced. Two deep holes, drilled down-plunge of the BK 1 and BK 2 zones, show that mineralization is still open at depth.

Although updated reserve figures have not been published, the joint venture has started a 6000 m drill program to upgrade existing and test for new reserves in the western portion of the known Contact Lake deposit. Because the deposit has published mineable reserves of 266,500 oz Au, good grades, and a relatively simple structure open to depth, it could support a profitable mine given a rise in gold prices. At present Contact Lake is potentially the most significant gold deposit in the province's history and its success will provide an important impetus to gold exploration.

Byers Fault Area

Golden Rule Resources Ltd. has agreed to purchase the Jolu mine and mill assets for $786 000 from Corona-Hemlo, Inc., a unit of International Corona Corporation (30%), and International Mahogany Corporation (70%). The 400 tpd Jolu mill ceased operations in August 1991. The Jolu mill will assist Golden Rule and its associated companies to move towards their goal of commercial production, under a central mill concept, from their eight properties located within a 65 km trucking distance of the Jolu mill via existing roads. The eight properties, all in the development stage through closely spaced drilling, are Tower East, Golden Heart, Weedy B zone, Niko, Corner Lake, Komis, EP, and Twin. Table 3 lists published reserves for these deposits.

In 1990, Waddy Lake Resources Inc. reinterpreted all the previous drill data on the Komis deposit and compiled the information on new cross-sections drawn perpendicular to the true strike and dip of the mineralized zones. Based on this work, a 4101 m diamond drill program was carried out from August to October 1992, to more clearly define the five previously unrecognized higher grade zones A to E.

Golden Rule Resources Ltd. reports that this program successfully redefined the Komis as a higher grade underground prospect rather than a lower grade open pitable one as had been assumed by previous operators. Waddy Lake Resources Inc. completed a new 20 hole, 2735 m, infill drill program on 12.5 m spacings this fall in order to confirm the tonnage and grade of the previously calculated reserves and identify additional reserves along strike and to depth. Encouraging results have been published from five of these holes. DDH KO92-35, the best of these, cut 13 m in the A zone which ran 38.25 g/t (1.115 oz/ton) Au from 18 m to 28 m and 7 m in the C zone which ran 34.03 g/t (0.992 oz/ton) from 77 m to 84 m downhole. Final 'metallic' assays, important because of the coarse 'free' gold content of the mineralized sections, are not yet available.

Other La Ronge Domain Prospects

Uranerz Exploration and Mining Ltd. continued their grassroots exploration program in the La Ronge Domain at the same level as last year, particularly in the Bernaski Bay pluton. Alligator Resources Ltd., a Saskatoon based prospecting syndicate, have exposed the "Broken Hammer Vein" on CBS 6120 northeast of Lower Waddy Lake, over 37 m by stripping. Vein widths vary from 0.5 m to 2 m. Metallic assays on 1992 grab samples taken along the vein length vary from 0.69 g/t (0.02 oz/ton) Au to 247 g/t (7.2 oz/ton) Au. Visible gold may be observed throughout the stripped area. This promising, structurally controlled showing has not yet been diamond drilled or systematically channel sampled. Kristo Gold Ltd. ran a pilot plant operation at the old Anglo-Rouyn mine site designed to test the feasibility of reclaiming gold and copper from the mine tailings.

Glennie Lake Domain

Seabee

Claude Resources Ltd. (100%)

Since opening in November 1991, the Seabee mine has produced around 5,000 oz of gold per month. A 13 700 m, surface and underground winter drill program, which ran from January to April 1992, resulted in a significant downward revision in reserves. Remaining recoverable diluted reserves in the 2B and 5-1 zones, including stockpile material, were reported at 107 000 t averaging 11.8 g/t (0.34 oz/ton) Au. These reserves were calculated to a depth of 350 m in the 2B zone and

Table 3 - Published reserves from selected Saskatchewan gold properties.

Owner(s)*	Property	Reserves(t) or Production (t)	Grade g/t	Grade oz/ton
	MINED			
Cameco-Starrex-Uranerz Expl. Min.	Star Lake Mine	76,750 oz		
	21+Rush zones**	182 541	14.4	0.42
Cameco-Shore Gold	Jasper Mine	82,697 oz		
		140 127	18.8	0.55
Corona Corp.-Int. Mahogany Corp.	Jolu Mine	203,301 oz		
	Rod+Mallard**	472 200	13.8	0.40
	MINEABLE			
Cameco-Uranerz Expl. Min.-Westward	Contact Lake Mine Bakos zone	1 065 000	7.8	0.23
	GEOLOGICAL			
Cameco-Golden Rule Res.-Goldsil Res.	Corner Lake	181 000	13.0	0.38
Cameco-Uranerz Expl. Min.-Westward	Pap SW	365 000	12.1	0.35
Claude Resources Inc.	Seabee	245 000	12.1	0.35
Golden Rule Res.	Niko	85 700	6.2	0.18
Golden Rule Res.-Goldsil Res.-Comaplex Res.	Tower East	922 000	6.9	0.2
Radcliffe Res. Inc.	'North' Lake	2 360 000	2.4	0.07
RJK Mineral Corporation	Athona	4 500 000	1.9	0.05
	Box Mine	22 673 000	1.85	0.05
Royal Oak-Golden Rule Res.-Cameco	Twin	351 100	6.2	0.18
Tyler Res.-Golden Rule Res.-Cameco	Weedy B	314 000	4.8	0.14
	Golden Heart	666 200	7.9	0.23
Waddy Lake Res.	Komis	510 000	15.1	0.44
	Includes			
	A zone	85 500	14.1	0.41
	C zone	280 000	16.5	0.48
	EP	227 000	5.8	0.17

Notes:
* Operator first
** Ore milled

125 m in the 5-1 zone. Remaining 2B proven and probable diluted reserves were 70 300 t grading 11.0 g/t (0.32 oz/ton) Au with an average width of 1.72 m. Remaining 5-1 zone proven and probable reserves were 36 700 t grading 13.4 g/t (0.39 oz/ton) Au with an average width of 1.70 m.

The Seabee mine has done much better than these very negative new reserve estimates might suggest. The operation continues to exceed capacity and produced 29,673 oz Au from 79 768 t ore grading 12.31 g/t (0.36 oz/ton) Au in the first six months of 1992. The average milling rate was 438 tpd. Grade and throughput were maintained during July and August. During mining the company has identified new reserves, principally in

the 2C vein, a part of the 2B zone, since the downscaling of reserves reported in April 1992. Mineable reserves in September amounted to about 7 months supply. The company is cautiously optimistic that continued mining, development, and aggressive exploration will continue to add to the reserves. A new decline, down 45 m in mid-October, is being developed on the 5-1 zone. Mining at the 5-1 zone began in September 1992.

Gold exploration activity was limited to a seven hole, 640 m, diamond drill program by Claude Resources Inc., operator (50%) and Manchester Resources Corporation (50%) on their joint venture at 'Santoy' Lake, 10 km east of the Seabee gold mine. Only zones 2 and 6, out of a total of six on the property, were tested by this program. DDH 1, drilled on the ice off zone 2, cut 142.91 g/t (4.2 oz/ton) Au, among other results, in a blind mineralized zone under the lake. DDHs 5, 6, and 7 all intersected zone 6 surface mineralization at depth. DDH 7 included 20 g/t (0.6 oz/ton) Au over 1 m.

BASE METALS

Base metal exploration expenditures are expected to fall from 1991 to 1992. Half of the base metal expenditure will be directed at sub-Phanerozoic targets where exploration for a major new, copper-rich, volcanogenic massive sulphide discovery continues.

Hudson Bay Mining and Smelting Co. Ltd. was purchased from Inspiration Resources Corporation by Minorco and Minorco (U.S.A.) on August 1, 1991 and the financing arrangements to cover the modernization of the Flin Flon smelter to meet new emission regulations effective 1994 were completed in December 1991. The zinc pressure leach portion of the environmental improvement project is proceeding on schedule.

Callinan Deposit

Hudson Bay Mining and Smelting (100% subject to a 6.67% NPI with Consolidated Callinan Flin Flon Mines Ltd.)

Mineable reserves remaining in the Callinan Mine are 2.36 m t grading 1.6% Cu, 3.9% Zn, 2.3 g/t (0.07 oz/ton) Au, and 26 g/t (0.76 oz/ton) Ag. To date production has come from the Callinan South, East, and lower portions of the Callinan North zones entirely in the Manitoba part of the deposit. Production from April 1990 to June 30, 1992 was 841 789 t grading 1.33% Cu, 3.9% Zn, 1.9 g/t (0.06 oz/ton Au), and 22.0 g/t (0.64 oz/ton) Ag. Hudson Bay carried out surface and underground definition drill programs on Callinan North and extended the Callinan South and East zones. Saskatchewan Upper Callinan North zone mineable reserves are lower than 1991 estimates but, at a slightly improved grade (Table 4). An additional 226 775 t of "geological resources" from the Upper Callinan North zone are uneconomic at this time.

Sub-Phanerozoic Area

Sub-Phanerozoic, volcanogenic massive sulphide mineralization has been previously discovered at Bigstone, Miskat, and McDermott lakes and McIlvenna Bay associated with felsic volcanics. The McIlvenna Bay deposit was discovered by testing geophysical targets, which are along trend and to the northwest of the Balsam massive sulphide zone at McDermott Lake. Although McIlvenna Bay, with mineable reserves of 13.82 m t grading 0.83% Cu and 4.66% Zn was inactive, exploration continued in this area. Granges Inc. in joint venture with Cameco, drilled the Bigstone Lake property again in 1992. Reserves, last publicly reported in 1985, are 1.45 m t grading 2.9% Cu and 308 441 t grading 11.2% Zn. More recent players in the area are Inco Ltd.

Table 4 - Published reserves from Saskatchewan base metal properties.

Owner(s)* Venture Operator	Property	Reserves(t) or Production (t) (t X 10^3)	Grade (%) Cu	Zn	Pb	(g/t) Au	Ag
	MINEABLE						
Cameco-Billiton Met. Can.	McIlvenna Bay	13 182	0.83	4.66	-	-	-
HBM+S	Callinan South+North						
	Mineable	2 360	1.6	3.9	-	2.3	26.1
	Production	842	1.3	3.9	-	1.9	22.0
	Callinan North (Sask.)	272	1.86	4.2	-	2.1	25.0
	GEOLOGICAL						
Granges	Bigstone Lake	1 451	2.9	-	-	-	-
Ex.-Cameco		308	-	11.2	-	-	-
Longyear, option to Phelps Dodge	Brabant	3 500	0.54	4.5	0.24	0.2	17.2

Notes:
* Operator first

and Rio Algom Exploration Ltd. Inco Ltd. drilled geophysical targets along trend and to the southeast of the McIlvenna Bay and Balsam zone finds. Rio Algom Exploration Ltd. completed ground geophysical surveys on a block of ground along trend and to the southwest of the Bigstone deposit. Cominco Ltd. drill tested geophysical targets in felsic metavolcanics to the south of Suggi Lake. Hudson Bay and Cameco drilled geophysical targets in the Saskoba lake area in an effort to find 'Namew Lake' type Ni-Cu-PGE deposits associated with ultramafic rocks.

Kisseynew Domain

Exploration for massive sulphides in the Kisseynew Domain continued in 1991 partly as a result of convincing re-interpretative mapping of some of the Kisseynew gneisses as felsic volcanic rocks. Also recognized are zones of syn-volcanic alteration, for example:

1. Fe-Mg metasomatism represented by garnet-anthophyllite-biotite rocks, and

2. aluminous alteration and silicification of felsic rocks represented by sillimanite-bearing quartzo-feldspathic gneisses in mafic volcanic sequences.

Cominco Ltd. and BHP Utah Mines Ltd. both carried out drill programs in the Wildnest—Attiti lakes area.

McKenzie

Longyear Canada Inc. (100%)

The 'McKenzie orebody' or 'Peg' property, now ML 5054, lay dormant for two decades before Gamsan Resources Ltd. purchased Prairie West Explorations Ltd. Longyear Canada Inc., the current owner, drilled another 18 NQ holes on the property from 1988-89 for Gamsan Resources Ltd. Phelps Dodge Corporation of Canada Ltd. recently optioned the property and are preparing a new exploration program. Gamsan Resources Ltd. suggested that what has been found so far might represent only a tectonized peripheral zone with a more extensive and hopefully a richer volcanogenic massive sulphide deposit at depth. Asturiana de Zinc, S.A. of Madrid, Spain have optioned a group of claims to the southwest of this property from Consolidated Pine Channel Gold Corp. and plan an early winter drill program.

Other Base Metal Projects

Hudson Bay Exploration and Development Co. Ltd. have retested the Birch Lake mine zone. Noranda Exploration Co. Ltd. has optioned claims belonging to Consolidated Pine Channel Gold Corp. in the Reindeer River area north of Royal Lake where four sulphide showings have been outlined. The Rebecca Noel (formerly the Linda and inactive for over 20 years) is the most advanced. Channel samples over 10 m returned values of: 0.98% Cu, 2.1% Zn, 0.25 g/t (0.01 oz/ton) Au, and 11.0 g/t (0.32 oz/ton) Ag; and 1.96% Cu, 1.94% Zn, 0.52 g/t (0.02 oz/ton) Au, and 25.3 g/t (0.74 oz/ton) Ag. Three drill holes have been completed with more planned in early December. Noranda Exploration Co. Ltd. is also active in the Wollaston Domain, where they control the Duddridge, Sito, Fable, Johnson (N), Janice, and Rafuse Lake showings of copper and zinc-lead hosted by Wollaston Group metasediments.

DIAMONDS

Public interest in diamond exploration continues due to the commodity's glamour and because exploration is carried out in the more populated areas of the province. As of November 12, 1992, 562 214 ha were under disposition for diamond exploration mostly in the Prince Albert—Carrot River area of the province. A significant increase has taken place since June and the total is still climbing. Major players now include Cameco Corp., Uranerz Exploration and Mining Ltd., Monopros Ltd., and Rio Algom Exploration Inc. Expenditures by these companies will rise in 1992. Rhonda Mining Corp. is the largest provincial landholder.

Monopros Ltd. will earn a one third interest in the Fort à la Corne project of Cameco and Uranerz Exploration and Mining Ltd. by contributing funds and expertise. The joint venture partners used two large rigs in the 1992 drill program which was designed to take a new bulk sample. Last year's bulk sample yielded a total of 160 macrodiamonds (>0.5 mm in diameter). The 1992 program focussed on the biggest, most productive pipes. Rhonda Mining Corp. has drilled four holes in the Sturgeon Lake area where previous exploration programs have outlined a large, continuous, glacially deposited train of kimberlite and shale chips. The train includes three rafts of kimberlite up to the size of football fields. The company believes a volcanic structure may exist in the nearby area. Three of the four holes were drilled on lands optioned from Claude Resources Inc. by Rhonda Mining Corp. and Aaron Oil Corp. Rio Algom Exploration Ltd. will drill on a new property in the Mistatim—Eldersley area southwest of the Pasquia Hills.

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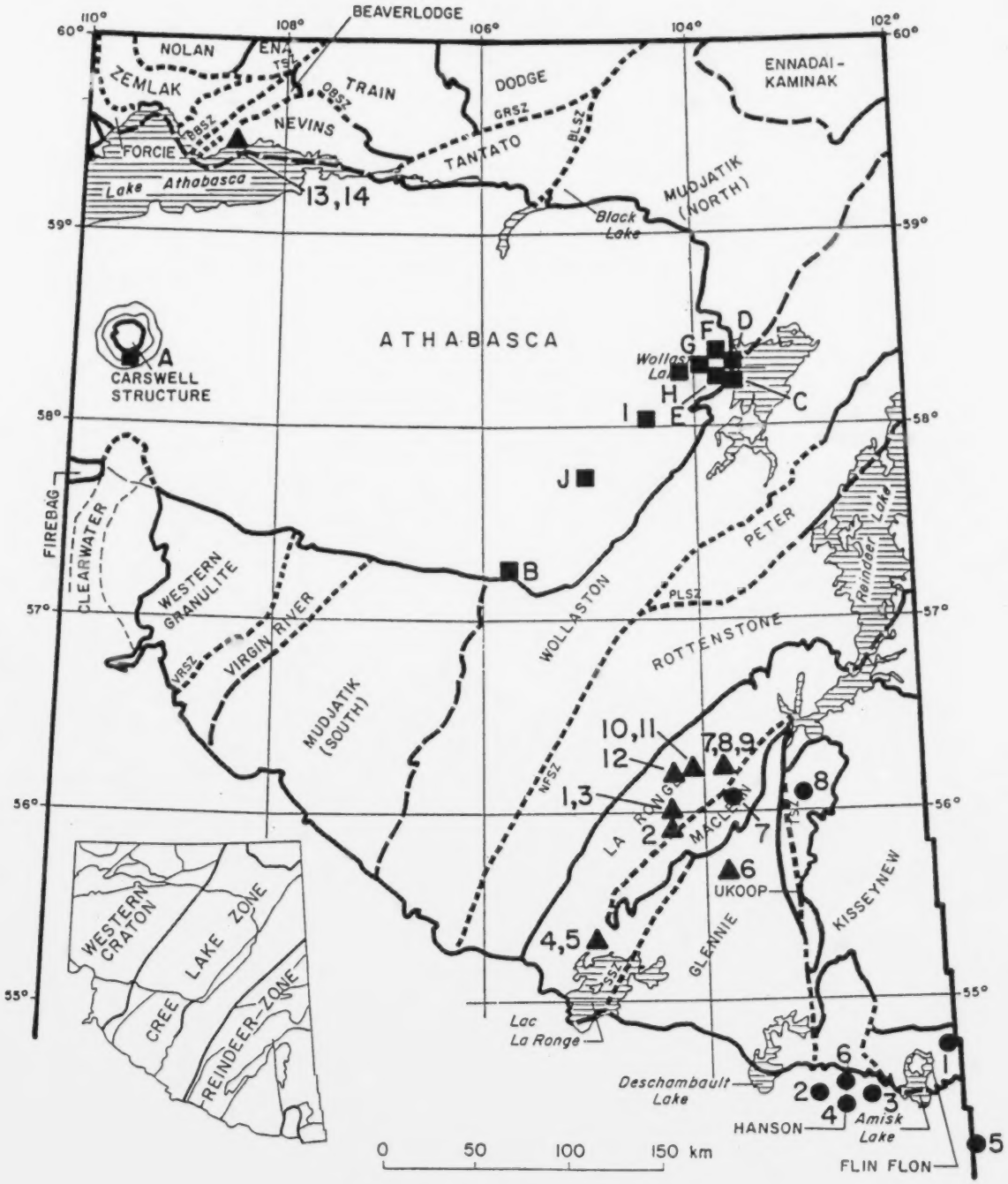

MINERAL DEPOSITS AND EXPLORATION AREAS

URANIUM: (A) Cluff Lake, (B) Key Lake, (C) Rabbit Lake, (D) Collins Bay—Eagle Point, (E) McClean Lake, Sue Trend, (F) JEB, (G) Dawn lake, (H) Midwest, (I) Cigar Lake, and (J) P2 North.

GOLD: (1) Jolu Mine, (2) Jasper Mine, (3) Star Lake Mine, (4) Contact Lake Deposit, Bakos zone, (5) Pap SW, (6) Seabee Mine, (7) Weedy B—Golden Heart, (8) Komis, (9) Twin, (10) Corner, (11) Tower East, (12) Niko, (13) Box Mine, and (14) Athona Mine.

BASE METALS: (1) Flin Flon and Callinan mines, (2) Bigstone Lake, (3) McDermott Lake, (4) Miskat Lake, (5) Namew Lake Mine, (6) McIlvenna Bay, (7) McKenzie, and (8) Linda.